

Traffic:	Legal Speed:	65 mph	From ODOT Project Initiation Package
	Design Speed:	70 mph	
	Opening Year ADT:	30500	
	Design Year ADT:	32500	
	Trucks (24 Hour B&C):	11%	
	Functional Classification:	Principal Arterial Freeway	
	Locale:	Urban	
	National Highway System (NHS):	Yes	

1002-1	Minimum Culvert Sizes: 24" for Fill <8'		
1004	Flood Clearance - N/A no Culverts in Project		
1004.2	Interstates, Freeways & Expressways		2% AEP (50-yr)
1006	Allowable Headwater		
	A. 1ft below near low edge of pavement (area less than 1000ac)		
	B. 2ft above inlet crown		
	C. 4ft above inlet crown in a deep ravine		
1006.2.2	Check Storm Controls		
	A. 2ft below lowest ground elevation adjacent to an occupied building for a 2% AEP storm		
	B. Limit max. 1%AEP storm headwater to 2x the diameter or rise of culvert		
	C. size a replacement structure to prevent overtopping by the 1% AEP storm where overtopping would not occur with existing culvert		
	D. Size replacement structure so flooding of upstream land is not increased for the 1% AEP storm when compared to the existing structure.		

1102.3	Ditch Design Criteria	N/A - No Ditch design as part of project
	ADT	>= 3000 ADT
	Depth of Flow Design	10% AEP
	Shear Stress Design	20% AEP
	Tc = 15 minutes, min.	
	Depth limited to 1' below edge of pavement or overtop ditch bank in toe of slope ditches	

1103	Pavement Drainage		
1103.2	Design AEP Storm	10%	Interstate, Freeways
	Check in sags	2%	Interstate, Freeways
	Max. depth	6 inches	For barrier
T 1103-1	Allowable Pavement Spread (into through lane)	0 ft	

1101-2	RDF Curve: A		
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Drainage Design Criteria

1104 Storm Sewers			
1104.2	Cover		
	Rigid Pipe		
	15" min. to pavement surface		
	9" min. to top of subgrade		
	18" min. not under pavement		
	Flexible pipe		
	24" min. to top of pavement		
	12" min. to top of subgrade		
	24" min. not under pavement		
	Adequate depth to create a positive outlet for ex. underdrains		
1104.3.1	Just Full Capacity	10% AEP (10-yr)	
1104.3.2	Hydraulic Grade Line (HGL)		4% AEP (25-yr)
	12" below near edge of pavement for sections without curb		
	Elev. of a curb opening grate elevation of pavement catch basin		
	Sag HGL on interstate	2% AEP (50-yr)	
1104.3.4	Time of Concentration	15 min minimum	to ditches
		10 min minimum	to pavement inlet
1104.3.5	Manning's n	0.015 60 inch dia. and under	
1104.3.5	Min. size	15"	Interstates, Freeways
1104.3.7	Max. slope	4:1 H:V	
		10 fps velocity max.	